

REMARKS

Claims 9 and 12-14 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent 6,150,426 to Curtin et al. Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Curtin et al in view of U.S. Patent 3,085,083 to Schreyer.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Curtin et al in view of WO 02/096983 A1. The grounds for rejection remain the same as set forth in the previous Office Action.

Applicants respectfully request the Examiner to reconsider in view of the following remarks and technical evidence submitted herewith. The independent claims are claims 9 and 10. Claims 1-8 and 16-22 are withdrawn as being directed to a non-elected invention.

Claim 9:

The Examiner expressed the view that he has provided a reasonable basis for the lack of carboxyl groups in the polymer of Curtin (paragraph 13 of the Office Action). However, Curtin does not disclose a fluoropolymer having no carboxyl groups.

Rather, Curtin discloses, "In contrast, reflectance infrared spectroscopy of solids recovered from compositions made by the process of U.S. Pat. No. 4,433,082 to Grot indicate bands at 1740 cm corresponding to the presence of carbonyl groups". See col. 6, lines 53-57.

Carboxyl end groups in a polymer absorb in the infrared spectrum at the bands shown in the following Table. Schreyer (US 3,085,083), Buckmaster (US 4,675,380), and Bidstrup (US 6,689,833) are given in evidence.

Table

	US 3,085,083	US 4,675,380	US 6,689,833
-COF		1883	1888
-COOH (monomer)	1812	1812	1813
-COOH (dimmer)	1779	1773	1774
-COOCH ₃		3436	

Schreyer describes “5.52 micron band” or “5.62 micron band” at col. 4, lines 69-72. See U.S. Patent 4,675,380 to Buckmaster at column 7, lines 14-24 and U.S. Patent 6,689,833 to Bidstrup at column 5, lines 42-47.

Bands at 1740 cm^{-1} do not correspond to carboxyl end groups. “Free of components containing carbonyl bonds as determined by reflectance infrared spectroscopy” does not mean “free of carboxyl groups in a polymer”.

Claim 10:

The Examiner points out “Preferred compositions in accordance with the invention are also free of C-H bonds” (paragraph 18 of the Office Action).

However, Curtin does not disclose a polymer having no C-H bonds.

The measurement method of unstable end groups is described at page 1, line 68 bridging to page 2, line 33 of GB 1,210,794 (copy attached).

GB 1,210,794 discloses “These end groups are detectable in the infrared spectrum of the polymer if the molecular weight of the polymer is not so high that the number of end groups present is too low to be detectable.” (Page 1, lines 82-87.)

GB 1,210,794 also discloses “This same improvement is observed for the polymers having molecular weights too high for the end group chemical changes to be seen by infrared

analysis, but because the improvement is so obtained the chemical changes are believed to have occurred.” (Page 2, lines 28-33.)

Namely, GB 1,210,794 discloses that unstable end groups in high molecular polymers such as polymer electrolytes are undetectable due to too few end groups, and undetectable unstable end groups exist in the polymer and they are stabilized by fluorine radicals.

Since the polymers disclosed in Curtin are also high molecular weight polymers, unstable end groups cannot be detected by infrared analysis. Furthermore, Curtin does not disclose any stabilizing process.

Therefore, “free of C-H bonds” does not mean “free of unstable groups having C-H bonds”.

Withdrawal of all rejections and allowance of claims 9-15 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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